

Listing of the Claims:

The following is a complete listing of all the claims in the application, with an indication of the status of each:

- 1 1. (Original) An electronically controlled pneumatic (ECP) end of train
2 (EOT) pneumatic emulation system, comprising:
3 a locomotive control unit associated with a non-ECP equipped lead
4 locomotive; and
5 an interface unit providing ECP data to the locomotive control unit
6 received from ECP equipped train cars via data communication links,
7 wherein the locomotive control unit provides brake commands to the ECP
8 equipped train cars via the interface unit in response to the ECP data
9 received from the interface unit.

- 1 2. (Original) The system of claim 1, wherein the interface unit further
2 provides EOT data to the locomotive control unit in response to
3 information received from an EOT unit mounted on a last car of the train.

- 1 3. (Original) The system of claim 2, wherein the locomotive control unit
2 provides communication with the interface unit via a wireless data link and
3 the interface unit provides communication with the ECP equipped trains
4 and the EOT unit via an ECP trainline.

- 1 4. (Original) The system of claim 1, wherein the interface unit is an
2 ECP/head of train (HOT) interface unit which emulates a Head End Unit
3 (HEU) in order to provide system set-up and status reporting.

- 1 5. (Original) The system of claim 1, wherein the ECP equipped train cars
2 respond to the brake commands over an ECP trainline as initiated from the
3 interface unit, wherein the ECP equipped train cars apply and release
4 brakes in response to changes in brake pipe pressure when there is a failure
5 to receive the ECP message, and wherein brake operation are provided

6 under pneumatics control during ECP failure.

1 6. (Original) The system of claim 1, wherein the interface unit supports
2 direct release and graduated release braking applications such that in the
3 graduated release application the interface unit sends ECP commands to
4 release brake pipe pressure in steps to the ECP equipped trains as brake
5 pipe pressure is restored.

1 7. (Original) The system of claim 1, wherein the locomotive control unit is
2 a portable unit having receiver and display functions used for ECP related
3 text messages.

1 8. (Original) The system of claim 1, wherein the interface unit provides a
2 migration path for application between the ECP equipped train cars and
3 non-ECP equipped train cars such that the ECP equipped train cars are
4 provided with brake commands electrically from the interface unit via the
5 locomotive control unit and the non-equipped train cars respond to
6 changes in brake pipe pressure.

1 9. (Original) An electronically controlled pneumatic (ECP) end of train
2 (EOT) pneumatic emulation system, comprising:
3 a locomotive control unit associated with a non-ECP equipped lead
4 locomotive; and
5 means for interfacing ECP data to the locomotive control unit
6 received from ECP equipped train cars, wherein the locomotive control
7 unit provides brake commands to the ECP equipped train cars via the
8 interface unit in response to the ECP data received from the interface unit.

1 10. (Original) The system of claim 9, wherein said means for interfacing
2 supports both direct and graduated release braking applications such that in
3 the graduated release application the interface unit sends ECP commands
4 to release brake pipe pressure in steps to the ECP equipped trains as brake

5 pipe pressure is restored.

1 11. (Original) A method of electronically controlling a brake pipe pressure
2 in a train having an electronically controlled pneumatic (ECP) end of train
3 (EOT) pneumatic emulation system, comprising the steps of:
4 providing a start brake pipe pressure;
5 determining whether a rate of change of the start brake pipe
6 pressure is within a predetermined threshold limit;
7 providing an ECP message to the EOT and individual train cars to
8 make a service brake application when the determining step determines
9 that the rate of change of the start brake pipe pressure is within the
10 threshold limit.

1 12. (Original) The method of claim 11, further comprising providing an
2 ECP message to the EOT and individual train cars to make an emergency
3 brake application when the determining step determines that the rate of
4 change of the start brake pipe pressure exceeds the threshold limit.

1 13. (Currently Amended) The method of claim 12, further comprising:
2 monitoring an emergency brake pressure at a head of train (HOT)
3 associated ~~with~~ with the EOT; and
4 monitoring the emergency brake pressure at the EOT, wherein the
5 emergency brake pressure provides the emergency brake application.

1 14. (Original) The method of claim 13, further comprising:
2 determining when the emergency brake pipe pressure measured by
3 the EOT exceeds a first predetermined limit;
4 determining when the emergency brake pipe pressure measured by
5 the HOT exceeds a second predetermined limit, wherein the emergency
6 brake pipe application remains active when the EOT determining step and
7 the HOT determining step are below the predetermined limit and the
8 second predetermined limit, respectively.

- 1 15. (Original) The method of claim 14, wherein the first predetermined
2 limit is approximately 70 PSI and the second predetermined limit is
3 approximately 15 PSI plus the first predetermined limit.
- 1 16. (Original) The method of claim 14, further comprising increasing the
2 brake pipe pressure to the start brake pipe pressure when the EOT
3 determining step and the HOT determining step exceed the predetermined
4 limit and the second predetermined limit, respectively.
- 1 17. (Original) The method of claim 11, further comprising providing an
2 ECP message to the EOT and individual train cars to make an emergency
3 brake pressure application when the service brake application exceeds a
4 predetermined reduction in brake pipe pressure.
- 1 18. (Original) The method of claim 17, wherein the predetermined
2 reduction in brake pipe pressure is approximately 120% of a full service
3 brake application.
- 1 19. (Original) The method of claim 11, further comprising determining
2 whether there is a change in the start brake pipe pressure prior to the
3 determining whether a rate of change of the start brake pipe pressure is
4 within the predetermined threshold limit, wherein a second ECP message
5 is provided to the EOT and the individual train cars when there is no
6 change to the start brake pipe pressure.
- 1 20. (Original) The method of claim 19, wherein the second message
2 instructs the EOT and individual train cars to remain at the start brake pipe
3 pressure.